Partial Acquisitions

The process of refining the engineering plans, including the availability of more detailed design level surveys, revealed the exact location of the existing right-of-way line in relation to the proposed roadway improvements. As a result, nineteen new partial acquisitions were identified in this FEIS/EIR that were not previously included in the August 2001 DEIR/EIS. These include partial acquisitions on Dunklee Avenue and Sorrell Drive on the north side of the freeway and on El Prado Avenue on the south side of the freeway in the City of Garden Grove. Please see Table 4.6-4 in Section 4.6 of this FEIS/EIR for a comprehensive listing of displacements and partial acquisitions. Also, see Figure 2.2-3 for the (Enhanced) Reduced Alternative features, as presented in this FEIS/EIR, and Figure 2.2-4 for the Reduced Build Alternative features, as presented in the August 2001 DEIR/EIS.

Eastern Terminus of Mainline

In the process of identifying a Preferred Alternative, a segment of the Full Build Alternative from Glassell Street to the SR-55 (without the HOV direct connector) was incorporated into the Reduced Build Alternative to improve its overall operational efficiency to the public utilizing the SR-22 corridor. The proposed improvements in this segment consist of two components: 1) the HOV lanes on the mainline in both directions from Glassell Street to SR-55; and 2) an auxiliary lane in the eastbound direction from Glassell Street to Tustin Avenue. Thus, this added segment extends the improvements of the Reduced Build Alternative previously proposed to end at Glassell Street to SR-55, and resulting in the (Enhanced) Reduced Build Alternative. Please see Figure 2.2-3 for the features of the (Enhanced) Reduced Build Alternative.

Trask Avenue/Sorrell Drive Synopsis

Background

The structures design team, when reviewing the SR-22 Project plans, identified several locations where there could be potential conflicts with the location of proposed bridge columns and existing traffic conditions, primarily in left-turn lanes. As most of the potential conflicts involved City of Garden Grove local streets, the traffic team met with the City to discuss these issues.

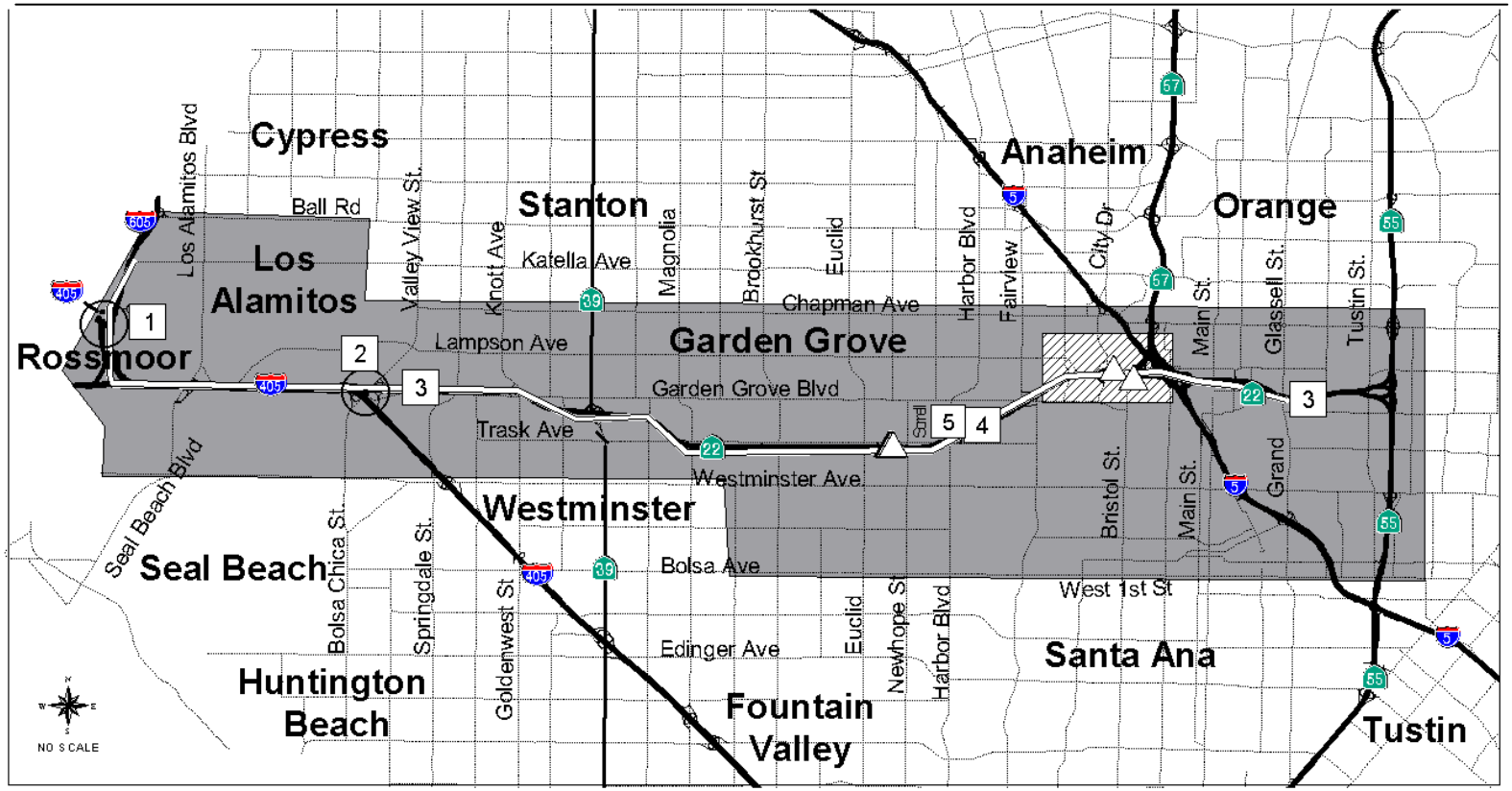
It was noted that the widening of the existing SR-22 overcrossing of Trask Avenue, west of Harbor Boulevard, would require additional bridge columns in the median of Trask Avenue. These additional columns in the median supporting the westerly bridge widening will extend through the intersection of Sorrell Drive. Sorrell Drive, a north-south residential street, one block long, presently forms a “T-intersection” with Trask Avenue, an east-west arterial. Extension of the existing median on Trask Avenue westerly through the intersection to protect the new columns will result in limiting access at Sorrell Drive. Access would be limited to westbound right turns from Trask to Sorrell, and southbound right turns from Sorrell to Trask. Since widening of the overcrossing would potentially require acquisition of the residential property on the northeast corner of Trask/Sorrell, one option to limited access of right turns in and out only between Trask and Sorrell would be to cul-de-sac Sorrell Drive at Trask Avenue. Both the limited access and the cul-de-sac options would eliminate traffic that is now using this segment of Sorrell Drive between Trask Avenue and Banner Drive as an alternate from the busy intersection of Harbor Boulevard/Trask Avenue to the east. The Department and OCTA will continue its coordination with the City of Garden Grove and affected residents.

Table 2.2-1
(ENHANCED) REDUCED BUILD ALTERNATIVE ELEMENTS

• **All improvements included in the No Build and TSM/Expanded Bus Service Alternatives, plus:**	
Highway	• Continuous lane in each direction from Beach Boulevard to I-5. • Auxiliary lanes between interchanges at various locations • Interchange improvements at Beach Boulevard and Brookhurst Street • A collector/distributor road along the eastbound SR-22 at the SR-22/I-5/SR-57 confluence • Improvements at The City Drive including a new connector from southbound SR-57 to westbound SR-22 • Replacement of portions (or all) of several general-purpose lane connectors in the SR-22/I-405/I-605 interchange, the SR-22/I-405 interchange, and the I-5/SR-22/SR-57 interchange • Eastbound auxiliary lane from Glassell Street to Tustin Avenue** • Pearce Street pedestrian overcrossing realignment • Sorrell Street modification
HOV	• An assumed HOV occupancy requirement of three or more persons per vehicle by study planning year 2020* • Anew HOV lane on SR-22 in each direction from Valley View to approx. SR-55**. • An additional HOV lane on I-405 in each direction from I-605 to SR-22 • HOV direct connector ramps between: – Southbound I-605 to southbound I-405 (modified from original proposal) – Northbound I-405 to northbound I-605 (modified from original proposal) – Southbound I-405 to eastbound SR-22 – Westbound SR-22 to northbound I-405

*Note: For study purposes, the HOV occupancy requirement is assumed to be applicable to all freeway HOV lanes in Orange County by Year 2020.
**Note: Introduced as part of the (Enhanced) Reduced Build Alternative

The planning horizon for both the (Enhanced) Reduced Build Alternative and the Full Build Alternative is 2020 (see Section 2.2.4 below for discussion of the Full Build Alternative). For the purposes of the traffic analysis the HOV requirement was assumed to be three or more persons per vehicle (3+) in the Year 2020. This assumption is consistent with other future planning efforts and was based on the analysis of travel forecasts. It is predicted that Orange County's HOV lanes would be congested during peak periods in 2020 even with an average occupancy requirement of two or more persons per vehicle (2+). Consequently, travel demand forecasts conducted for the SR-22/WOCC alternatives assume that the full Orange County HOV network would be operating under a 3+ occupancy requirement. It is important to note, however, that the policy decision to change the HOV vehicle occupancy requirement from 2+ to 3+ has not been made. The current vehicle occupancy requirement for HOV lanes in Orange County is 2+. For the (Enhanced) Reduced Build Alternative, it is anticipated that HOV lanes on SR-22 would open and operate at a 2+ occupancy requirement until such time that a policy decision is made to change the HOV network from 2+ to 3+.



LEGEND

- Interstate Highway
- State Highway
- Proposed Improvements
- Proposed Interchange Improvements
- Location of Displacements
- Study Area
- Differs from Full Build Alternatives

(Enhanced) Reduced Build Alternative Elements

1 - I-405/I-605 Connector (modified from 2001 Reduced Build Alternative)
2 - I-405/SR-22 Connector
3 - SR-22 Mainline (Valley View St. to approx. SR-55)
4 - Pearce St. Pedestrian Overcrossing (replacement with ADA compliance)
5 - Sorrell St. (Realignment)

FIGURE 2.2-3

SR-22/ West Orange County Connection Project
(Enhanced) Reduced Build Alternative Map
-March 2003 FEIS/EIR-

Summary of Displacements & Partial Acquisitions

	RESIDENTIAL		NON-RESIDENTIAL	
LOCATION	DISPLMT	PARTIAL ACQ.	DISPLMT	PARTIAL ACQ.
Rossmoor*	0	(0)	0	(1)
Seal Beach	0	(0)	0	(1)
Garden Grove	1	(54)	0	(2)
Santa Ana	0	(0)	0	(2)
Orange	1	(0)	10	(8)
TOTAL	2	(54)	10	(14)

* Community in Unincorporated Orange County

LEGEND

- Interstate Highway
- State Highway
- Proposed Improvements
- Proposed Interchange Improvements
- Location of Displacements
- Study Area
- Differs from Full Build Alternative

Reduced Build Alternative Elements

1 - I-405/I-605 Connector
2 - I-405/SR-22 Connector
3 - SR-22 Mainline (Valley View St. to Glassell St.)
4 - Pearce St. Pedestrian Overcrossing (replacement in kind)

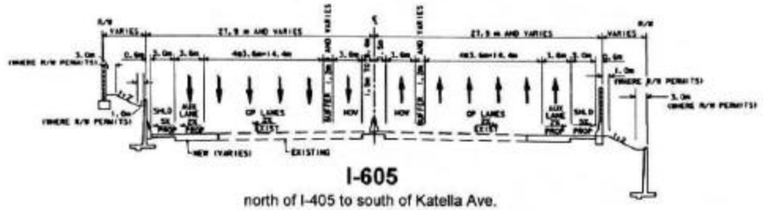
FIGURE 2.2-4

SR-22/ West Orange County Connection Project
Reduced Build Alternative Map
-August 2001 DEIR/EIS-

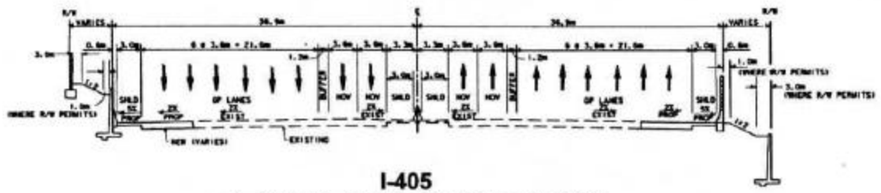
Summary of Displacements & Partial Acquisitions

	RESIDENTIAL		NON-RESIDENTIAL	
LOCATION	DISPLMT	PARTIAL ACQ.	DISPLMT	PARTIAL ACQ.
Rossmoor*	0	(6)	0	(0)
Seal Beach	6	(0)	0	(1)
Garden Grove	3	(4)	18	(2)
Santa Ana	0	(0)	0	(2)
Orange	1	(0)	8	(5)
TOTAL	10	(10)	26	(10)

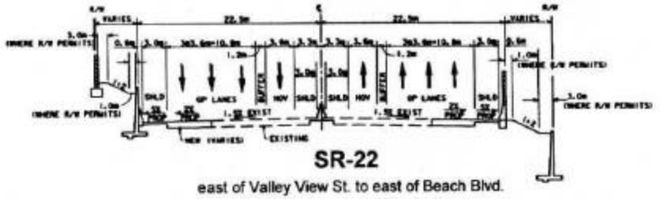
* Community in Unincorporated Orange County



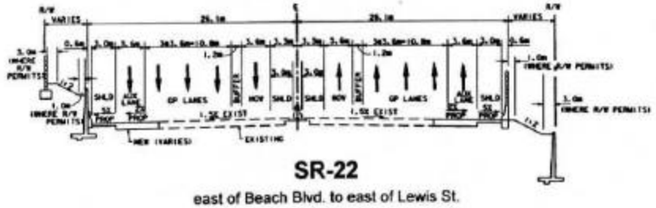
I-605
north of I-405 to south of Katella Ave.



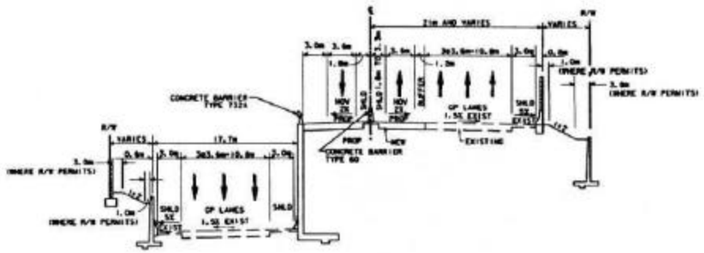
I-405
north of Valley View St./Bolsa Chica Rd. to south of I-605



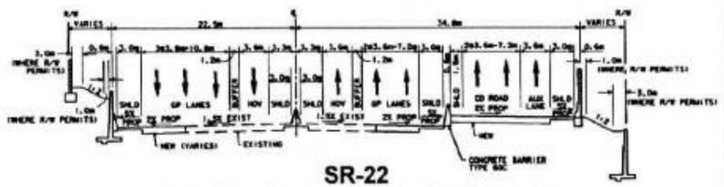
SR-22
east of Valley View St. to east of Beach Blvd.
east of I-5 to west of Tustin Ave.



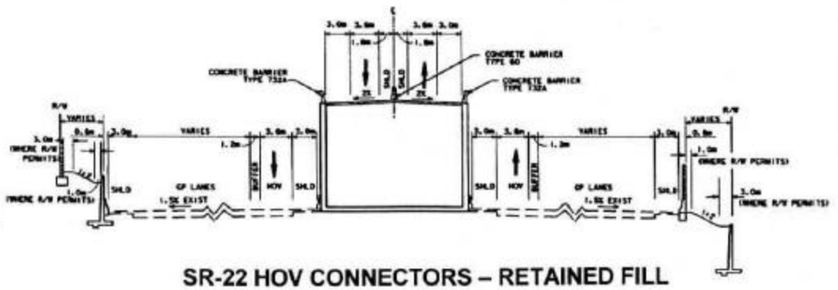
SR-22
east of Valley View St. to east of Beach Blvd.



SR-22/I-405 HOV CONNECTOR – RETAINED FILL



SR-22
east of Lewis St. to east of SR-57 northbound connector



SR-22 HOV CONNECTORS – RETAINED FILL

Not to Scale

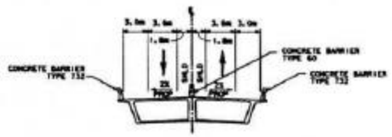
SR-22/West Orange County Connection Project

(Enhanced) Reduced Build Alternative Typical Sections

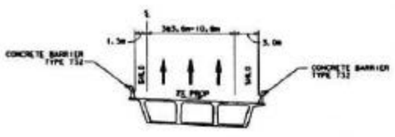
Figure 2.2-5a

SR-22/West Orange County Connection Project

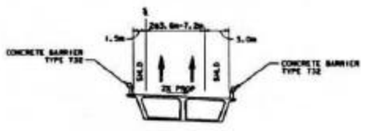
(Enhanced) Reduced Build Alternative Typical Sections



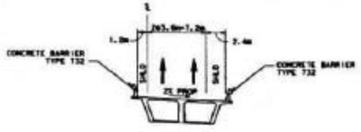
SR-22 HOV CONNECTORS



SOUTHBOUND I-405 TO EASTBOUND SR-22 CONNECTOR
over I-405



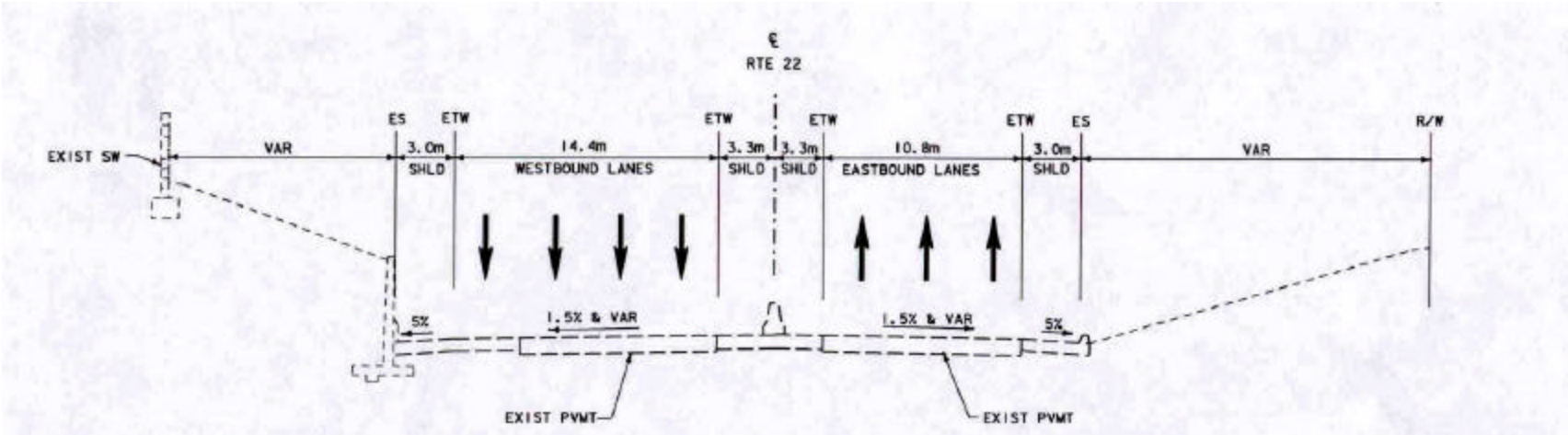
NORTHBOUND I-405 AND SOUTHBOUND I-5/SR-57 TO WESTBOUND SR-22 CONNECTORS
over northbound I-405 and over The City Drive ramps



SOUTHBOUND SR-57 TO METROPOLITAN DRIVE CONNECTOR
over Santa Ana River

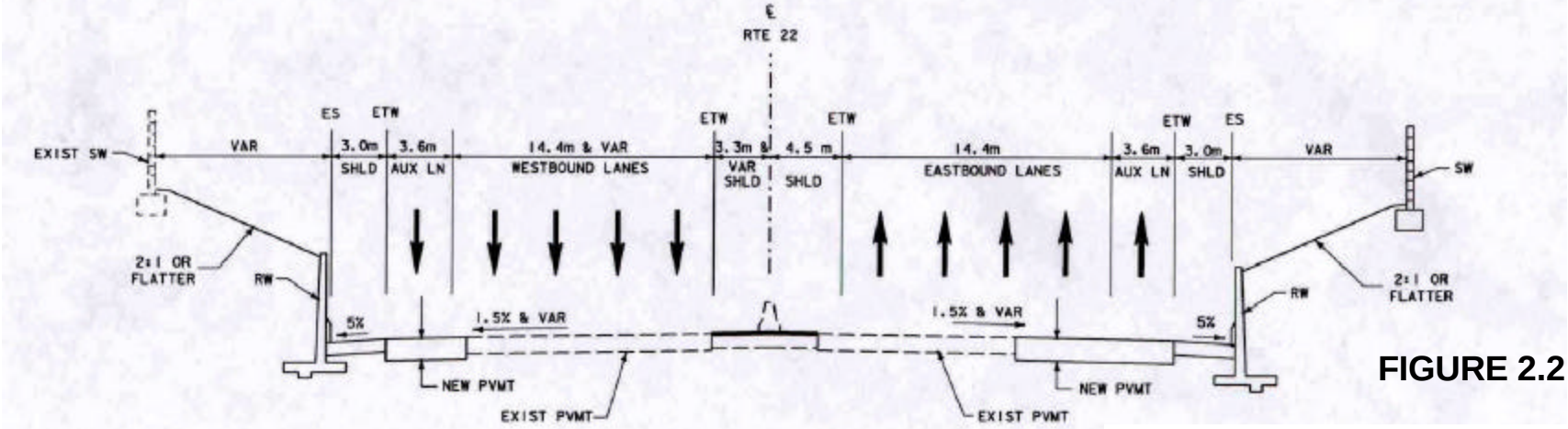
Not to Scale

Figure 2.2-5b



SR-22

Glassell St. to Tustin Ave. (Existing)



SR-22

Glassell St. to Tustin Ave. (Proposed)

FIGURE 2.2-5 c

Note: the (Enhanced) Reduced Build Alternative's cross-section is the same as the Full Build Alternative in both directions from approximately I-605 to Glassell Street on SR-22.

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B. OTHER ALTERNATIVES

The following discussions pertain to the alternatives that were presented in the draft EIR/EIS during the August 2001 public review/comment period. The No Build, TSM/Expanded Bus Service, Full Build and Reduced Build Alternatives were the four options that were presented to the public for solicitation of comments and input. As discussed in the previous section (Sec 2.2 (A), the Reduced Build Alternative has been modified slightly and renamed the (Enhanced) Reduced Build Alternative.

1. No Build Alternative

The No Build Alternative represents future baseline conditions in the year 2020 and provides a baseline scenario for comparison with other alternatives. The No Build Alternative encompasses only improvements to the transportation network that have already been approved and funded. No capital improvements for SR-22 are included under this alternative. The No Build Alternative incorporates all of the elements of the OCTA 1998 *FastForward* Long-Range Transportation Plan (FFTP) Baseline Scenario that are outlined in Table 2.2-2. The FFTP Baseline Scenario also includes the 1995 Combined Transportation Funding Program (CTFP) data. In addition, the No Build Alternative includes all governmental agency or private developer projects not in the 1995 CTFP that have been approved and funded.[1] It is important to note that under the no build alternative, traffic is projected to worsen, and driving conditions would ultimately deteriorate to a point where the use of the parallel alternate arterials would increase proportionately. Consequently, driving conditions are expected to worsen as commuters shift from utilizing SR-22 to the local arterials during peak periods. Under the No Build Alternative, one-half of the SR-22 corridor would operate at Level of Service (LOS) F (Refer to Transportation and Circulation Section 3.7 & 4.7).

Also included in the No Build Alternative are all of the elements of the No Build and TSM alternatives defined in OCTA's *The Corridor Major Investment Study Final Evaluation Report*, which was adopted by the OCTA Board on June 9, 1997.[2] Descriptions of these elements are contained in the *MIS Evaluation Report*. The Corridor MIS No Build Alternative represents the existing highway, HOV, bus, fixed guideway, and ATS systems plus all transportation improvements programmed to be implemented by 2020, as outlined in OCTA's FFTP Baseline Scenario.

[1] The FFTP and CTFP documents are available at OCTA.
[2] Available at OCTA.

Table 2.2-2
OCTA'S FASTFORWARD LONG-RANGE TRANSPORTATION PLAN
BASELINE SCENARIO

Highways/ Streets	Freeway Widening	• I-5 north through Anaheim from SR-22 to SR-91 (completed 2002) • SR-55 from SR-22 to SR-91 (completion: 2003)
	Improvements	• Various improvements at junction of I-405 and SR-73 (target completion date: 2005) • Eastern and Foothill Transportation Corridors (general-purpose lanes) (completed) • "Gateway" program using markers denoting county borders • State Route 133 (SR-133) realignment from I-405 to El Toro Road (target completion date: 2008) • Grade separation at Imperial Hwy. for Orangethorpe Rail Corridor to reduce delays (target completion date: • Complete existing bikeway projects (target completion date: 2005)
	Measure M	• Turnback funding for city street improvements to year 2011 • Competitive street program of projects
	Smart streets	• Beach Boulevard (complete) • Imperial Highway (due: 2003) • Katella Avenue (due: 2010) • Moulton Parkway
HOV	Carpool lanes	• Added to I-5 north from SR-22 to Los Angeles County line (complete) • Added to SR-91 from SR-57 to Los Angeles County line (complete)
	Carpool lane connections	• I-5/SR-91 (complete) • SR-91/SR-57 (complete) • I-405/SR-55 (target completion date: 2004)
Bus	Bus service	• Increase service to 1.90 million annual vehicle service hours by year 2020 • Purchase clean fuel transit buses and vans (target: 2007) • Add articulated buses (target: 2004)
	Additional Accessibility	• Support regional rideshare program for two years (carpool matching, marketing, etc.) (ongoing) • Build a fourth maintenance base • Implement new communication systems for buses • Meet ADA mandates for complementary paratransit service • Provide accessible bus stops for persons with disabilities
Rail Transit	Rail transit	• Design 45-kilometer (28-mile) urban rail from Fullerton to Irvine (target: 2010) • Operate Metrolink: Orange County (to Los Angeles) Line and Inland Empire-Orange County Line (ongoing) • Double Metrolink track parallel to Lincoln Avenue (in Santa Ana & Orange) (target: 2005) • Construct Metrolink rail stations in Buena Park, Tustin, and Laguna Niguel/Mission Viejo (completed)
Advanced Transportation Systems	ATS	• Traveler information at kiosks located throughout the county • Automatic vehicle locators for buses using Global Positioning Satellites (GPS) (completed) • Public/private advanced transportation technology partnerships (ongoing)

2. TSM/Expanded Bus Service Alternative

The TSM/Expanded Bus Service Alternative includes all of the improvements outlined in the No Build Alternative, such as OCTA's FFTP Baseline Scenario, The Corridor MIS No Build, and TSM Alternatives. In conjunction with these improvements, the TSM/Expanded Bus Service Alternative incorporates additional TSM strategies in the SR-22 corridor. The TSM/Expanded Bus Service Alternative would include various improvements such as increased capacity and speed on Garden Grove Boulevard, Trask Avenue, and Westminster Boulevard/17th Street within the existing curbs by removing parking and widening lanes, reduced headway on buses in study area, and two new routes, resulting in approximately 50 additional buses during peak periods and 40 buses during the midday period, and signal synchronization/controller upgrading. Adding bus service on both the freeway and adjacent arterials may not solve the congestion problem since these facilities do not have capacity for dedicated bus lanes, particularly on SR-22. Currently, SR-22 experiences congestion problems during AM/PM peak periods. The TSM/Expanded Bus Service Alternative strategies are primarily operational and are listed in Table 2.2-3.

The TSM/Expanded Bus Service Alternative does not include any capital improvements to SR-22. Although rejected as a standalone alternative, elements from this proposal are included in the preferred build alternative (as outlined in Table 2.2-1). The Corridor MIS TSM alternative represents implementation of lower cost capital improvements, such as increased bus service with associated arterial improvements.

Table 2.2-3

TSM/EXPANDED BUS SERVICE ALTERNATIVE ELEMENTS

All improvements included in the No Build Alternative, plus:	
HIGHWAY	• Increased capacity and speed on Garden Grove Boulevard, Trask Avenue, and Westminster Boulevard/17th Street within the existing curbs by such methods as removing parking and widening lanes • Deployment of trailblazing signage
BUS*	• Reduced headway on buses in study area and two new routes, resulting in addition of approximately 50 buses during peak periods and 40 buses during the midday period • Extension of three bus routes into Long Beach • Implementation of a fleet management system • Development of a transit intersection priority system
ATS	• Signal synchronization/controller upgrading • Automated Response Plan • Use of Highway Advisory Radio • Installation of Changeable Message Signs

* The transit operating plans were established as part of the definition of alternatives during the MIS phase of the SR-22/WOCC project.

3. Full Build Alternative

The Full Build Alternative, the initial "build" alternative identified by the OCTA Board on November 9, 1998, includes all of the elements contained in the No Build and TSM/Expanded Bus Service Alternatives, as well as specific elements that address HOV system connectivity. This alternative would provide HOV lanes on SR-22, thus furthering the countywide HOV system and fulfilling an important transportation goal. The SR-22 HOV connectors were added in September 1997 with the expansion of the project, which included the West Orange County Connection. This element was incorporated in response to public outreach, which identified completion of the HOV system as a high priority. In particular, HOV connectors were perceived as important as relieving on the SR-22 corridor, especially in regards to the safety and efficiency of the system. The HOV connectors allow the system to accommodate long distance travel for carpools and buses, while enabling the smooth flow of vehicles between freeways and avoiding chokepoints at major interchanges. The Full Build Alternative's route was divided into six segments for

analysis purposes. This was done to enable separate consideration of the impacts of each segment and facilitate subsequent planning and implementation decisions. These segments are as follows:

1. I-405/I-605 Connector – Katella Avenue south to Seal Beach Boulevard a distance of 3.7 kilometers (2.3 miles). The alignment of this connector has been modified from the original design.
2. I-405/SR-22 Connector – Seal Beach Boulevard east to Valley View Street, a distance of 3.7 kilometers (2.3 miles)
3. SR-22 Mainline – Valley View Street east to Glassell Street, including The City Drive improvements, a distance of 17.9 kilometers (11.1 miles)
4. I-5/SR-22 Connector – SR-22 and The City Drive to I-5 and Broadway, a distance of 2.3 kilometers (1.4 miles)
5. SR-22/SR-55 Connector – SR-22 and Glassell Street to SR-55 and Chapman Avenue to the north and Fairhaven Street to the south, a distance of 3.9 kilometers (2.4 miles)
6. Pacific Electric Arterial – Taft Avenue at SR-22, southeast to where it joins Santa Ana Boulevard at Raitt Street, a distance of 5.1 kilometers (3.2 miles)

In addition to the improvements outlined in the No Build and TSM/Expanded Bus Service Alternatives, the Full Build Alternative includes the elements listed in Table 2.2-4.

After the circulation of the August 2001 DEIR/EIS, and as a result of comments received during the public review and comment period of the DEIR/EIS, the Department further analyzed multiple sections of the SR-22 corridor to refine right-of-way limits and reduce environmental impacts for the proposed project. Additional design modifications to the Full Build Alternative, as presented in the August 2001 DEIR/EIS, were made to avoid right-of-way acquisitions and to reduce environmental impacts while maintaining the design standards. These efforts resulted in avoidance of acquisitions at the following locations:

- The partial acquisitions of six homes along Martha Ann Drive in the Rossmoor Community as well as utility relocation were avoided by tightening the curvature of the S405/N605 connector while shortening the gore area further to the south;
- The right-of-way impact at the City of Seal Beach's reservoir was avoided by tightening the curvature of the Seal Beach Boulevard off-ramp while shifting the exit nose further to the south;
- The I-405/605 HOV connector has been realigned and lowered from the DEIR/EIS proposal to reduce impacts to the community of Rossmoor and the City of Seal Beach (Please refer to Figure 2.2-1 for the modified plan);
- The full acquisitions of six homes along Almond Avenue in the City of Seal Beach as well as the relocation of overhead power lines and reconstruction of existing soundwalls were avoided by: 1) shifting the I-405 freeway centerline toward the south; 2) tightening the curvature; and 3) shifting the southbound I-405 to eastbound SR-22 connector gore area (divergence point) further to the east. This was achieved without changing the impacts to the United States Naval Weapons Station (USNWS) utility easement or facility on the south side of I-405; and
- The partial acquisitions of four homes along Enloe Way in the City of Garden Grove were avoided by shifting the SR-22 eastbound Magnolia on-ramp alignment closer to the freeway mainline and shifting the gore area (convergence point) further to the west.

Refined engineering plans and the availability of more detailed design level surveys have identified the Pearce pedestrian overcrossing to be replaced since it would conflict with the proposed footing of the SR-22/WOCC project just west of the Haster Street exit. The Pearce Pedestrian Overcrossing is an existing pedestrian overcrossing that is not Americans with Disabilities Act (ADA) compliant. The refined engineering plans enable the Department to determine the proximity of setback for possible landscaping and determination of preliminary noise barriers.

In refining the engineering plans and with the availability of more detailed design level surveys, a total of nineteen new partial acquisitions were identified in this FEIS/EIR that were not previously included in the August 2001 DEIR/EIS. These include partial acquisitions at Yockey Bridge, along Dunklee Avenue on the north side of the freeway, and at El Prado Avenue on the south side of the freeway in the City of

Garden Grove. A comprehensive listing of displacements and partial acquisitions can be found in Section 4.6. Please see Figure 2.2-6 for the Full Build Alternative features, as presented in this FEIS/EIR and Figure 2.2-7 for the Full Build Alternative features, as presented in the August 2001 DEIR/EIS.

I-405/605 HOV Connector Synopsis

The I-405/605 HOV connector alignment presented in the DEIR/EIS was proposed over three existing facilities: the I-405 freeway, the connector from eastbound SR-22 to northbound I-405, and the connector from southbound I-405 to northbound I-605. The peak elevation of the alignment as shown in the August 2001 DEIR/EIS of the proposed connector structure occurred at approximately 95 ft. (29 meters) high where the minimum vertical clearance is required over the existing southbound I-405 to northbound I-605 connector. During the public review period of the August 2001 DEIR/EIS, which included a 60-day public comment period and two Public Hearings, concerns from the Rossmoor residents arose regarding traffic noise, visual, air quality, and traffic issues. In an effort to address these concerns, several different design variations have been studied. Among them, one preferred design solution has been identified that reduces the height of the HOV connector by shifting the alignment of the proposed HOV connector southerly such that the revised alignment runs parallel between the eastbound SR-22 and the southbound I-605 to southbound I-405 connectors at the same elevations. The peak elevation of this alignment shown in the FEIS/EIR is approximately 72 ft. (22 meters) high where the connector crosses over the eastbound SR-22 connector (approximately 2300 ft. [700 meters] east of the previously identified peak elevation point). See Figure 2.2-1a, b, and c for more detail on the I-405/605 HOV connector realignment.

Pearce Street Pedestrian Overcrossing

Refined engineering plans and the availability of more detailed design level surveys have identified the Pearce pedestrian overcrossing to be replaced since it would conflict with the proposed widening of the SR-22/WOCC project. The original Preliminary Engineering plans for the SR-22/WOCC pedestrian overcrossing assumed it would be replacement in kind. The Pearce Street pedestrian overcrossing is located between the Fairview Street and Harbor Boulevard exits on SR-22, just east of Harbor Boulevard. The Pearce Street pedestrian overcrossing is an existing pedestrian overcrossing that is not compliant with the Americans with Disabilities Act (ADA). The replacement of the pedestrian overcrossing would have to comply with ADA standards. ADA requires a minimum of 8.3% grade, and an eight-foot width for the walkway of the pedestrian overcrossing. The existing Pearce Street pedestrian overcrossing is approximately at a 15% grade and it is approximately eight feet (2.4 meters) wide. The refined engineering plans enable the Department to determine the proximity of setback for possible landscaping and determination of preliminary noise barriers. The plans for the Pearce Street pedestrian overcrossing will be finalized at the design stage of the project. As previously discussed, the August 2001 DEIR/EIS assumed the Pearce Street pedestrian overcrossing would be replaced in-kind at the same location as the existing facility. The replacement Pearce Street pedestrian overcrossing proposed in this FEIS/EIR is ADA compliant, and would be approximately 360 ft. (110 meter) east of the existing overcrossing. Please refer to Figure 2.2-2 b for a schematic of the replacement proposal.

In order to determine the usage of the Pearce Street pedestrian overcrossing, surveys were sent to residents within a half-mile radius of the pedestrian overcrossing. During the administrative review phase of the FEIS/EIR, the proposed ADA compliant pedestrian overcrossing identified three residential displacements that were not previously identified during the DEIR/EIS. As part of the environmental documentation process, the Department's right-of-way staff contacted these three potential displacees. This led to concerns raised by the displacees, and the Department elected to survey the usage of the pedestrian overcrossing and hold a public meeting. At this time, the Department is recommending a right-turn only access from Sorrell Drive to westbound Trask Avenue design; a final decision will be made at the design stage. A Public Meeting was held on December 17, 2002 to present to the community the different plans to replace the existing Pearce Street pedestrian overcrossing. The purpose of the Public Meeting was to supplement the survey by sharing information with the community and to solicit their input on the replacement of the pedestrian overcrossing. Approximately 50 residents in the community attended the meeting. Comment Forms were available at the meeting and 42 of them were received. The

Pearce Street pedestrian overcrossing user survey results, as well as the Public Meeting, and the Comment Form are summarized in Section 2.2 of this chapter. The three potential displacements have been avoided by redesigning and relocating the overcrossing east of the existing location. Please see Figure 2.2-2 b for the modified proposed design of the overcrossing. Additional discussions are in Section 10.5.3, Comments and Coordination.

Partial Acquisitions

The process of refining the engineering plans, including the availability of more detailed design level surveys, revealed the exact location of the existing right-of-way line in relation to the proposed roadway improvements. As a result, nineteen new partial acquisitions were identified in this FEIS/EIR that were not previously included in the August 2001 DEIR/EIS. These include partial acquisitions on Dunklee Avenue and Sorrell Drive on the north side of the freeway and on El Prado Avenue on the south side of the freeway in the City of Garden Grove. Please see Table 4.6-12 in Section 4.6 of this FEIS/EIR for a comprehensive listing of displacements and partial acquisitions. Also, see Figure 2.2-6 for the Full Build Alternative features, as presented in this FEIS/EIR, and Figure 2.2-7 for the Full Build Alternative features, as presented in the August 2001 DEIR/EIS.

Trask Avenue/Sorrell Drive Synopsis

The structures design team, when reviewing the SR-22 Project plans, identified several locations where there could be potential conflicts with the location of proposed bridge columns and existing traffic conditions, primarily in left-turn lanes. As most of the potential conflicts involved City of Garden Grove local streets, the traffic team met with the City to discuss these issues.

It was noted that the widening of the existing SR-22 overcrossing of Trask Avenue, west of Harbor Boulevard, would require additional bridge columns in the median of Trask Avenue. These additional columns in the median supporting the westerly bridge widening will extend through the intersection of Sorrell Drive. Sorrell Drive, a north-south residential street, one block long, presently forms a "T-intersection" with Trask Avenue, an east-west arterial. Extension of the existing median on Trask Avenue westerly through the intersection to protect the new columns will result in limiting access at Sorrell Drive. Access would be limited to westbound right turns from Trask to Sorrell, and southbound right turns from Sorrell to Trask. Since widening of the overcrossing would potentially require acquisition of the residential property on the northeast corner of Trask/Sorrell, one option to limited access of right turns in and out only between Trask and Sorrell would be to cul-de-sac Sorrell Drive at Trask Avenue. Both the limited access and the cul-de-sac options would eliminate traffic that is now using this segment of Sorrell Drive between Trask Avenue and Banner Drive as an alternate from the busy intersection of Harbor Boulevard/Trask Avenue to the east. More details can be found in Section 2.2 of this chapter.

Table 2.2-4
FULL BUILD ALTERNATIVE ELEMENTS

All improvements included in the No Build and TSM/Expanded Bus Service Alternatives, plus:	
Highway	• A general-purpose arterial roadway on the former Pacific Electric right-of-way south of SR-22 leading to central Santa Ana via Santa Ana Boulevard and Civic Center Drive; this alternative includes a temporary landscaped median, which will be reserved for future transit improvements • Direct connector ramps between SR-22 and the new arterial on the former Pacific Electric right-of-way • Continuous lane in each direction from Beach Boulevard to I-5. • Auxiliary lanes between interchanges at various locations • Interchange improvements at Beach Boulevard and Brookhurst Street • A collector/distributor road along the eastbound SR-22 at the SR-22/I-5/SR-57 confluence • Improvements at The City Drive including a new connector from southbound SR-57 to westbound SR-22 • Replacement of portions (or all) of several general-purpose lane connectors in the SR-22/I-405/I-605 interchange, the SR-22/I-405 interchange, the I-5/SR-22/SR-57 interchange, and the SR-22/SR-55 interchange • Eastbound auxiliary lane from Glassell Street to Tustin Avenue • Pearce Street pedestrian overcrossing realignment • Sorrell Street modification
HOV	• An assumed HOV occupancy requirement of three or more persons per vehicle by study planning year 2020* • A new HOV lane on SR-22 in each direction from I-405 to SR-55 • An additional HOV lane on I-405 in each direction from I-605 to SR-22 • HOV direct connector ramps between: – Southbound I-605 to southbound I-405 (modified from original proposal) – Northbound I-405 to northbound I-605 (modified from original proposal) – Southbound I-405 to eastbound SR-22 – Westbound SR-22 to northbound I-405 – Eastbound SR-22 to southbound I-5 – Northbound I-5 to westbound SR-22 – Eastbound SR-22 to northbound SR-55 – Southbound SR-55 to westbound SR-22

*Note: For study purposes, the HOV occupancy requirement is assumed to be applicable to all freeway HOV lanes in Orange County by Year 2020.

The Full Build Alternative also includes the following design features to improve the operational characteristics of the facility in certain locations that currently create bottlenecks (choke-points) for motorists:

- Continuous lane in each direction from Beach Boulevard to I-5.
- Auxiliary lanes between interchanges at various locations
- Interchange improvements at Beach Boulevard and Brookhurst Street
- A collector/distributor road along the eastbound SR-22 at the SR-22/I-5/SR-57 confluence

Under the Full Build Alternative, the freeways within the SR-22/WOCC project would be improved to full geometric design standards with the exception of design standards, such as interchange spacing, weaving lengths, lane widths, shoulder width, and median widths, that must be approved by the Department.

[3] Available at OCTA.

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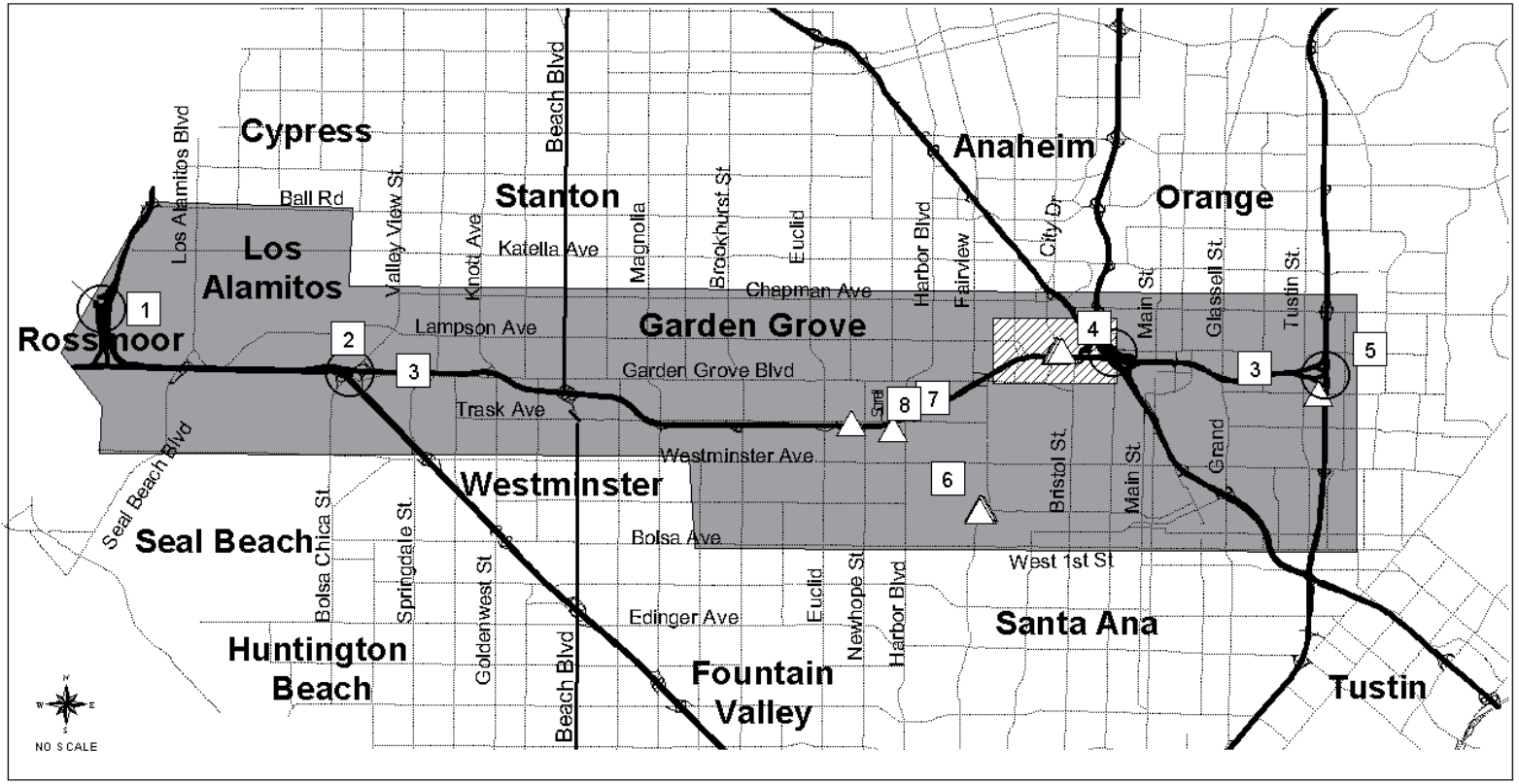


LEGEND

- Interstate Highway
- State Highway
- Proposed Improvements
- Proposed Interchange Improvements
- Location of Displacements
- Study Area
- Differs from (Enhanced) Reduced Build & Reduced Build Alternatives

Full Build Alternative Elements

1. - I-405/I-605 Connector (same as (Enhanced) Reduced Build Alternative)
2. - I-405/SR-22 Connector
3. - SR-22 Mainline (Valley View St. to Glassell St.)
4. - I-5/SR-22 Connector
5. - SR-22/SR-55 Connector
6. - Pacific Electric Right-Of-Way
7. - Pearce St. Pedestrian Overcrossing (replacement with ADA Compliance)
8. - Sorrell St. (Realignment)

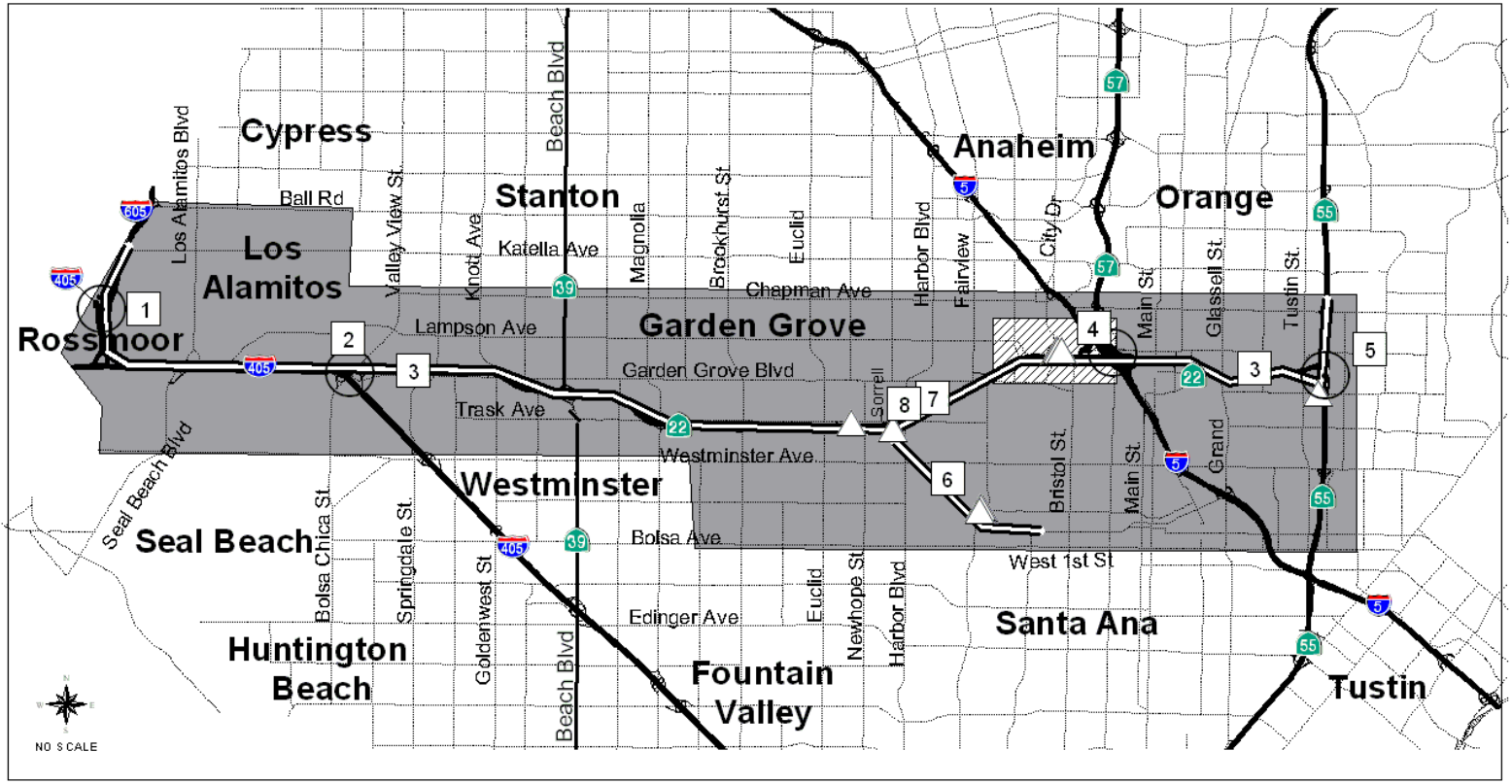
FIGURE 2.2-6

SR-22/ West Orange County Connection Project
Full Build Alternative Map
-March 2003 FEIS/EIR-

Summary of Displacements & Partial Acquisitions

	RESIDENTIAL		NON-RESIDENTIAL	
LOCATION	DISPLMT	PARTIAL ACQ.	DISPLMT	PARTIAL ACQ.
Rossmoor*	0	(0)	0	(1)
Seal Beach	0	(0)	0	(1)
Garden Grove	20	(56)	17	(2)
Santa Ana	60	(0)	8	(7)
Orange	64	(13)	14	(8)
TOTAL	144	(69)	39	(19)

* Community in Unincorporated Orange County



LEGEND

- Interstate Highway
- State Highway
- Proposed Improvements
- Proposed Interchange Improvements
- Location of Displacements
- Study Area
- Differs from (Enhanced) Reduced Build & Reduced Build Alternatives

Full Build Alternative Elements

1 - I-405/I-605 Connector (same as Reduced Build Alternative)
2 - I-405/SR-22 Connector
3 - SR-22 Mainline (Valley View St. to Glassell St.)
4 - I-5/SR-22 Connector
5 - SR-22/SR-55 Connector
6 - Pacific Electric Right-Of-Way
7 - Pearce St. Pedestrian Overcrossing (replacement in kind)

FIGURE 2.2-7

SR-22/ West Orange County Connection Project
Full Build Alternative Map
-August 2001 DEIR/EIS-

Summary of Displacements & Partial Acquisitions

	RESIDENTIAL		NON-RESIDENTIAL	
LOCATION	DISPLMT	PARTIAL ACQ.	DISPLMT	PARTIAL ACQ.
Rossmoor*	0	(6)	0	(0)
Seal Beach	6	(0)	0	(1)
Garden Grove	59	(8)	17	(2)
Santa Ana	60	(0)	8	(7)
Orange	64	(15)	10	(5)
TOTAL	189	(29)	35	(15)

* Community in Unincorporated Orange County

2.3 ALTERNATIVES WITHDRAWN FROM FURTHER CONSIDERATION (preliminary planning phase)

As described in Section 2.1.2, a refined set of six conceptual alternatives was evaluated in detail as part of the MIS conducted for the SR-22/WOCC project. The MIS technical analysis is presented in the *MIS Evaluation Report*. The MIS technical evaluation, along with public input and policy considerations, provided the basis for the selection of the final set of transportation alternatives described in Section 2.2. Ultimately, the No Build Alternative, the TSM/Expanded Bus Service Alternative, the two variations of the HOV Lanes Full System Alternative, and the Full Build and Reduced Build Alternatives were carried forward for further study in the DEIR/EIS, as discussed in the following Section 2.4.

The alternatives that were withdrawn from further study upon completion of the MIS phase of the project are summarized in Sections 2.3.1 through 2.3.3, below. The detailed technical results, description of public involvement activities and findings, and summary of OCTA Board actions that led to the elimination of these conceptual alternatives are provided in the *MIS Evaluation Report*.

2.3.1 Refined Alternative 3: Fixed Guideway

A. DESCRIPTION

The Fixed Guideway Alternative would implement a new travel mode in the study area. The Fixed Guideway would link two existing systems extending from the Santa Ana Transportation Center/Metrolink station on the east to the Metropolitan Transportation Authority (MTA) Blue Line on the west. This alternative includes all elements of the No Build Alternative and the TSM/Expanded Bus Service Alternative, in addition to the following changes:

Bus.

- Reduce the number of express buses from those provided in the TSM/Expanded Bus Service Alternative to lessen conflicts between express buses and the proposed Fixed Guideway
- Increase north/south service to act as feeder service to the Fixed Guideway
- Provide park-and-ride lots at the following locations for improved access/transfer to the Fixed Guideway:
  - Brookhurst Street at SR-22 (Garden Grove)
  - Seal Beach Boulevard at SR-22 (Seal Beach)

Fixed Guideway.

- The Fixed Guideway alignment running between the Los Angeles/Orange County line in Seal Beach and the Santa Ana Transportation Center following along SR-22, the Pacific Electric right-of-way, Santa Ana Boulevard, and Fourth Street through central Santa Ana
- Ten-minute headways in the peak periods and twenty-minute headways in the off-peak periods
- Fixed Guideway technology serving mainline east/west movements along SR-22 and the former Pacific Electric right-of-way; extended trip-making beyond the mainline requiring a transfer at each station
- Station locations at approximately 1.6- to 3.2-kilometer (one- to two-mile) intervals adjacent to major north/south arterial crossings
- Specific fixed guideway technology not determined; light-rail transit (LRT) assumed for purposes of travel forecasting and impact assessment

B. SUMMARY OF FINDING

Consistent with OCTA's decision in the MIS, the Fixed Guideway Alternative was eliminated from further consideration due to the high estimated capital, operating, and maintenance costs; lack of a direct rail/guideway system connection at the western terminus of the Fixed Guideway alignment (i.e. once the alignment reached the Los Angeles County/Orange County line); and lack of public support in the SR-22 corridor study area. The Fixed Guideway Alternative did not fulfill OCTA's transportation goal to complete the last major link in the county's HOV network. Furthermore, the Fixed Guideway Alternative would only moderately improve the availability of travel choices.

2.3.2 Alternative 4: General-Purpose Lanes

A. DESCRIPTION

The General-Purpose Lanes Alternative addresses the transportation needs of the study area through expanding the capacity of the freeway by adding general-purpose lanes in each direction on SR-22 between Valley View Street and SR-55 and providing a new arterial along the former Pacific Electric right-of-way. Because this alternative is made up of two distinct components (the general-purpose lanes on SR-22 and the arterial), two sub-alternatives were defined and evaluated. Alternative 4A includes only the general-purpose lanes on SR-22 and Alternative 4B includes the general-purpose lanes on SR-22 and the arterial along the former Pacific Electric right-of-way.

Alternative 4A. This sub-alternative includes all elements of the No Build Alternative and the TSM/Expanded Bus Service Alternative, and the following additional improvements:

Highway.

- An additional general-purpose lane on SR-22 in each direction from I-405 to SR-55

Alternative 4B. This sub-alternative includes all elements of the No Build Alternative and the TSM/Expanded Bus Service Alternative, and the following additional improvements:

Highway.

- An additional general-purpose lane on SR-22 in each direction from I-405 to SR-55
- A general-purpose arterial constructed on the former Pacific Electric right-of-way south of SR-22 leading to central Santa Ana via Santa Ana Boulevard and Civic Center Drive
- Direct connector ramps between SR-22 and the former Pacific Electric right-of-way arterial

B. SUMMARY OF FINDING

From a purely technical perspective, the General-Purpose Lanes Alternative exhibited many of the mobility benefits of the other build alternatives considered, as well as similar environmental impacts depending upon the General-Purpose Lanes Alternative option being considered. Alternative 4B showed greater environmental impacts compared to Alternative 4A, largely because of the proposed four-lane arterial in the former Pacific Electric right-of-way. Consistent with OCTA's decision in the MIS, the General-Purpose Lanes Alternative was eliminated from further consideration due to concerns with future air quality conformity, a desire to preserve the long-term operational flexibility of added lanes to SR-22, and the desire to meet an important transportation goal: completion of Orange County's HOV system. With the completion of Orange County's HOV system, mobility throughout other freeways linked to SR-22 would also be improved, thereby reducing the "bottleneck" effect throughout the region.

The implementation of the General-Purpose Lanes Alternative would not efficiently address the increased travel times and long-term congestion issues predicted for SR-22. A lesser benefit for reducing congestion and improving air quality would be derived from the general-purpose lane alternatives than from an HOV alternative because the PM peak period vehicle hours traveled (VHT) for the general-purpose lane would be greater than that for an HOV lane.

The SR-22 corridor is located in the South Coast Air Basin (SCAB) jurisdiction, currently classified as non-attainment for Carbon Monoxide (CO), Ozone (O_3), and Particulate Matter greater than 10 microns (PM_{10}), with respect to air quality compliance under the Federal and California Clean Air Acts. Federal Law [23 U.S.C section 134 (l)] prohibits funding for a significant increase in carrying capacity for single-occupant vehicles (general-purpose lanes) for regions classified as non-attainment for CO and O_3 (Sections 3.8 & 4.8 for further discussions on air quality). Furthermore, capacity-enhancing highway projects would not satisfy SCAG's air quality conformity analysis to determine whether the project would contribute to air pollution in the SCAB. It was rejected on the basis that it would worsen air quality and it would only provide moderate improvements in operations. The South Coast Air Quality Management District has jurisdiction over SCAB, and would not allow funding of projects that would cause any exceedances to non-attainment areas with respect to criteria pollutants.

2.3.3 Alternative 5: HOV Lanes on SR-22

A. DESCRIPTION

The HOV Lanes on SR-22 Alternative would add an HOV lane to SR-22 between Valley View Street and SR-55, as incorporated in the SCAG 1998 RTP. The HOV lane in each direction would end at the terminal freeway-to-freeway interchanges. This alternative includes all elements of the No Build Alternative and the TSM/Expanded Bus Service Alternative, and the following additional improvements:

HOV

- An HOV lane in each direction from I-405 (Valley View Street) to SR-55

Bus

- Use of SR-22 HOV lanes by express buses, providing faster bus service

B. SUMMARY OF FINDING

This HOV Alternative performed well in the technical analysis conducted for the MIS as it maximized transportation benefits at the lowest cost compared to the other build alternatives. This alternative would complete the countywide HOV system, fulfilling an important transportation goal. Through surveys of the project area and countywide public opinion polls, participants voiced concerns about the safety and congestion impacts of vehicles moving between HOV and general-purpose lanes as they transition between freeways. Surveys indicated that the public generally believes direct carpool connectors between freeways improve safety and overall efficiency of the HOV system. The public regarded Alternative 5 as less desirable compared to the other HOV alternatives because it lacked direct freeway-to-freeway HOV connectors, so it was eliminated from further consideration. The benefits of system HOV connectivity would be minimized by the lack of direct freeway-to-freeway HOV connectors.

2.4 ALTERNATIVES CONSIDERED FOR FURTHER ANALYSIS (preliminary planning phase)

As described in Section 2.2, the following are alternatives that were analyzed during the MIS process along with the alternatives discussed in the previous section. These alternatives were carried forward based on their meeting the 13 objectives, as set forth during the MIS process. These objectives were: improve availability of travel choices; lower peak-period travel times; maximize transportation benefits with available transportation dollars; limit right-of-way acquisition; minimize emissions within the study area; maximize consistency with adopted local land use and regional plans; minimize impacts to people and property adjacent and near to the improvements; minimize impacts to water and biological resources; minimize impacts to the tax base; maximize visual/physical access to adjacent commercial properties; minimize construction-related disruptions; improve geometric design to the extent possible; and provide CHP access/enforcement areas and emergency access. Table 2.4-1 summarizes the alternatives that were analyzed during the MIS process and how each of them performed in meeting each of the 13 objectives.

2.4.1 Alternative 1: No Build

A. DESCRIPTION

The No Build Alternative represents future baseline conditions in the year 2020 and provides a base scenario for comparison with other alternatives. It encompasses only improvements to the transportation network that have already been approved and funded, including all of the elements of the OCTA 1998 *FastForward* Long-Range Transportation Plan (FFTP) Baseline scenario as outlined in Table 2.2-2.

Also included in the No Build Alternative are all of the elements of the No Build and the TSM alternatives as defined for The Corridor MIS (Central Orange County) and adopted by the OCTA Board on June 9, 1997. The Corridor MIS No Build Alternative represents the existing highway, HOV, bus, fixed guideway, and ATS system plus all transportation improvements programmed to be implemented by 2020 as outlined in OCTA's FFTP Baseline Scenario. The Corridor MIS TSM alternative represents implementation of lower-cost capital improvements, such as increased bus service with associated arterial improvements.

B. SUMMARY OF FINDING

From a planning standpoint, the No Build Alternative did not perform well in meeting most of the objectives. However, it performed well under the objectives to minimize environmental impacts because it does not involve any construction activities that would require additional right-of-way.

2.4.2 Alternative 2: TSM/Expanded Bus Service

A. DESCRIPTION

All improvements outlined in Alternative 1 are in Alternative 2. This includes OCTA's FFTP Baseline scenario and The Corridor MIS No Build and TSM alternatives. In conjunction with these improvements, Alternative 2 incorporates additional TSM strategies in the SR-22 corridor. These strategies include:

Highway

- Enhance alternative routes by providing operational improvements that result in increased speed on Garden Grove Boulevard, Trask Avenue, and Westminster Boulevard/ 17th Street.

Bus

- Reduce headways on buses in the study area. Extend three routes into Long Beach.

B. SUMMARY OF FINDING

The TSM/Expanded Bus Service Alternative performed similarly to the No Build Alternative, except that it would improve mobility and maximize cost-effectiveness over the No Build Alternative by adding additional bus service, and it would also minimize emissions within the SR-22 corridor slightly by providing additional travel choices. This Alternative was carried forward for analysis in the environmental document to adhere to FHWA's guidelines recommending highway projects consider these options in metropolitan areas with over 200,000 population.

2.4.3 Alternative 6: HOV Lanes Full System

A. DESCRIPTION

The HOV Lane Full System alternative attempts to address HOV system connectivity. By including HOV freeway-to-freeway direct connectors, Alternative 6 provides the highest level of service for HOVs, which in turn benefits general-purpose vehicles by removing HOVs from the general-purpose traffic stream.

Like Alternative 4, Alternative 6 includes several distinct components (HOV lanes on SR-22, HOV freeway-to-freeway direct connectors at four freeway interchanges, and an arterial along the former Pacific Electric right-of-way). Three sub-alternatives were defined that include different combinations of the three components.

Alternative 6A. This sub-alternative includes all elements of the No Build Alternative and the TSM Alternative, HOV lanes on SR-22, and an arterial along the former Pacific Electric right-of-way, which includes the following specific improvements:

Highway

- An arterial on the former Pacific Electric right-of-way south of SR-22 leading to central Santa Ana via Santa Ana Boulevard and/or Civic Center Drive (the arterial may or may not have designated HOV lanes).
- Direct connector ramps between SR-22 and the former Pacific Electric right-of-way arterial.

HOV

- The HOV occupancy requirement is assumed to be three or more persons per vehicle by the 2020 study planning year. Travel demand forecasts for a two or more persons per vehicle occupancy requirement showed that the demand exceeded the capacity.
- An HOV lane in each direction from I-405 (Valley View Street) to SR-55.
- An arterial on the former Pacific Electric right-of-way south of SR-22 leading to central Santa Ana via Santa Ana Boulevard and/or Civic Center Drive (the arterial may or may not have designated HOV lanes).

Bus

- Express buses routed on SR-22 are assumed to travel in the HOV lanes providing faster bus service.

Alternative 6B. This sub-alternative includes all elements of the No Build Alternative and the TSM Alternative, HOV lanes on SR-22, and HOV freeway-to-freeway direct connectors at four freeway interchanges includes the following specific improvements:

HOV

- The HOV occupancy requirement is assumed to be three or more persons per vehicle by the 2020 study planning year. Travel demand forecasts for a two or more persons per vehicle occupancy requirement showed that the demand exceeded the capacity.
- An HOV lane in each direction from I-605 to SR-55 (an additional HOV lane in each direction would be added to the segment of I-405 between I-605 and SR-22).
- HOV direct connector ramps at the following locations: between I-605 and I-405, between I-405 and SR-22, between SR-22 and I-5, and between SR-22 and SR-55.

Bus

- Express buses routed on SR-22 are assumed to travel in the HOV lanes providing faster bus service.

Alternative 6C. This sub-alternative includes all elements of the No Build Alternative and the TSM Alternative, HOV lanes on SR-22, HOV freeway-to-freeway direct connectors at four freeway interchanges, and an arterial along the former Pacific Electric right-of-way which includes the following specific improvements:

Highway

- An arterial on the former Pacific Electric right-of-way south of SR-22 leading to central Santa Ana via Santa Ana Boulevard and/or Civic Center Drive (the arterial may or may not have designated HOV lanes).
- Direct connector ramps between SR-22 and the former Pacific Electric right-of-way arterial.

HOV

- The HOV occupancy requirement is assumed to be three or more persons per vehicle by the 2020 study planning year. Travel demand forecasts for a two or more persons per vehicle occupancy requirement showed that the demand exceeded the capacity.
- An HOV lane in each direction from I-605 to SR-55 (an additional HOV lane in each direction would be added to the segment of I-405 between I-605 and SR-22).
- An arterial on the former Pacific Electric right-of-way south of SR-22 leading to central Santa Ana via Santa Ana Boulevard and/or Civic Center Drive (the arterial may or may not have designated HOV lanes).
- HOV direct connector ramps at the following locations: between I-605 and I-405, between I-405 and SR-22, between SR-22 and I-5, and between SR-22 and SR-55.

Bus

- Express buses routed on SR-22 are assumed to travel in the HOV lanes providing faster bus service.

B. SUMMARY OF FINDINGS

Alternative 6A, 6B, or 6C would be most consistent with the regional plans because each would provide HOV lanes on SR-22, HOV connectors at freeway-to-freeway interchanges, and a future transit corridor along the former Pacific Electric right-of-way as detailed in the MPAH, the 98 RTP, and the AQMP. Alternative 6C performed well in the technical analysis conducted for the MIS as it maximized transportation; it would perform best in providing the most daily hours of transit service and would also provide the most kilometers/postmiles of HOV facilities. Alternative 6C would result in the greatest number of parcel acquisitions and largest area of acquisition of any of

the alternatives. The main reason for this result is that Alternative 6C would include improvements along the former Pacific Electric right-of-way. Alternative 6C would improve more of the geometric conditions than any of the other alternatives because the improvements included in Alternative 6C extend over the greatest length (from I-605 to SR-55). The other build alternatives include improvements over shorter distances, and thus provide fewer improvements. Alternative 6B or 6C would provide the most CHP and emergency access.

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Table 2.4-1
SUMMARY OF ALTERNATIVE EVALUATION RESULTS

Study Objectives	Alt. 1	Alt. 2	Alt. 3	Alternative 4		Alt. 5	Alternative 6		
				Alt. 4A	Alt. 4B		Alt. 6A	Alt. 6B	Alt. 6C
The results presented in this table are based on technical analyses. "High" indicates that the alternative performed well with regard to a particular objective and "Low" indicates that it performed poorly.	No Build	TSM / Expanded Bus Service	Fixed Guideway	GP on SR-22	• GP on SR-22 • GP Arterial on PE ROW	HOV lane on SR-22	• HOV on SR-22 • GP Arterial on PE ROW	• HOV on SR-22 • HOV Connectors	• HOV on SR-22 • GP Arterial on PE ROW • HOV Connectors
Improve Mobility									
Expand the Range of Travel Choices	Low	High	High	Low	Low	High	High	High	High
Lower Travel Times at Peak Periods	Low	Medium	High	Medium	Medium	High	High	High	High
Improve Roadway Operations									
Improve Roadway Design to the Extent Possible	Low	Low	Low	Medium	High	Medium	High	High	High
Provide Greater CHP Access / Enforcement Areas and Emergency Access	Low	Low	Low	Medium	Medium	High	High	High	High
Minimize Adverse Environmental Impacts									
Limit Displacements and Acquisitions	High	High	Medium	Medium	Low	Medium	Medium	Medium	Low
Reduce Emissions within the Study Area	Low	Medium	High	Low	Low	Medium	Medium	Medium	Low
Limit Impacts to People and Property in the Vicinity of the Project	High	High	Low	Medium	Medium	Medium	Medium	Low	Low
Limit Impacts to Water and Biological Resources	High	High	Medium	Medium	Low	Medium	Low	Medium	Low
Maximize Cost-Effectiveness									
Get Greatest Transportation Benefits with Transportation Dollars	____	High	Medium	Low	Low	High	Medium	Medium	Medium
Limit Adverse Economic Impacts									
Reduce Economic Impacts to the Tax Base	High	High	Medium	Medium	Medium	Medium	Medium	Medium	Low
Enhance Visual / Physical Access to Adjacent Commercial Properties	High	High	Medium	Medium	Low	Medium	Low	Medium	Low
Limit Disruptions due to Construction	High	High	Low	Low	Low	Low	Low	Low	Low
Be Consistent with Adopted Local Land Use and Regional Plans	High	High	High	High	Medium	High	High	High	High

Notes: GP = General-Purpose; PE ROW = Pacific Electric right-or-way

2.5 STATUS OF OTHER PROJECTS AND PROPOSALS WITHIN THE AREA

Related projects are those that may affect the construction, operation or use of the SR-22/WOCC, but are developed independently from it. They may also contribute to cumulative impacts when considered in conjunction with the SR-22/WOCC.

Related projects that have been identified for the SR-22/WOCC study area are presented below. Projects that are still in the planning process pending environmental approvals by the lead agencies are not listed. Only projects that have certified and adopted environmental documents are included. Examples of major projects in the SR-22 study area awaiting environmental approval are the Harbor Boulevard Smart Street Feasibility Study and The CenterLine Project.

2.5.1 Los Alamitos

- See Section 2.5.10 of this report, Regional Transportation Projects, for a description of the Katella Avenue Super Street project.

2.5.2 Orange County & Rossmoor Community

- The Orange County Water District has planned construction of a 60 to 78-inch diameter water pipeline along the north levee of the Santa Ana River. The limits of the projects, which consists of a 3-phase construction process, begin south of I-405 adjacent to Orange County Sanitation District's Plant No. 1 and terminate at Miller Basin in the City of Anaheim. A portion of the pipeline is presently under construction in the vicinity of the Theo Lacy Facility.
- Rossmoor Pump Station and Basin Modifications, located between I-605 and the San Gabriel River, is a portion of Los Alamitos Channel known as Rossmoor Retarding Basin. This project will build a new pump station to help regulate flows (Orange County, 1998).[4]

2.5.3 Seal Beach

- The proposed redevelopment of Bixby Old Ranch Towne Center in Seal Beach is adjacent to Seal Beach Boulevard between Saint Cloud Drive and Rossmoor Center Way. The project would dedicate the existing Bixby Old Ranch Tennis Club to the City of Seal Beach as a public recreation facility. Plans include building a new hotel, restaurants, and senior care facilities, while improving the existing golf course (Seal Beach, 1998).
- Widening of the Seal Beach Boulevard overcrossing of I-405 is proposed to provide six through lanes (three in each direction), sidewalks, bike lanes and a median. Roadway approaches would also be widened. Small amounts of additional right-of-way would be required for the widening (Seal Beach, 1998).[5]
- Marina Drive Bike Trail extends from First Street to Electric Avenue in the City of Seal Beach. The project proposes to construct Regional Trail in order to connect the trail system from the proposed trail on North Marina to an existing trail on Electric Avenue, including a traffic circles at Marina Drive and 5th Street.

2.5.4 Westminster

- No projects are proposed in the vicinity of SR-22.

[4] The Negative Declaration for this project is available at County of Orange, Public Facilities and Resources Department, 300 N. Flower Street, Santa Ana, CA 92703.
[5] The EIR for the Bixby Old Ranch Towne Center and the Negative Declaration for the Seal Beach Boulevard overcrossing are available at the City of Seal Beach, 211 Eighth Street, Seal Beach, CA 90740.

2.5.5 Garden Grove

- County Wide Automotive Dealership, located on the corner of Trask Avenue and Taft Street, anticipates construction of an approximately 1.3-hectare (3.2-acre) site for the operation of an automobile sales, repair, and service facility (Garden Grove, December 1999).[6]
- The City of Garden Grove has proposed improvements at the Harbor Boulevard interchange with SR-22. Note, this proposed project is included as an element of the Harbor Blouevard Smart Street, listed below under Regional Transportation Projects.

2.5.6 Stanton

- No projects are proposed in the vicinity of SR-22.

2.5.7 Santa Ana

- Fashion Square Commercial Center (now known as MainPlace Mall) completed the final phase of development, which includes an office building on the northern end of the property and a department store expansion on the southern end (Santa Ana, 1983).
- Main Street Concourse, located at the northeast corner of Main Street and Owens Drive, is a proposed 7.6-hectare (18.9-acre) development, which includes the construction of commercial, office, retail, hotel, entertainment, and residential land uses (Santa Ana, 1992).
- Bristol Street Widening entails upgrading a 6.3-meter (3.9-mile) section of Bristol Street to six lanes. The project extends from Memory Lane to Warner Avenue (Santa Ana, 1990).[7]
- Santiago Creek Bike Trail Project extends from Santiago Park to Santiago Day Camp in the City of Santa Ana. The project entails the construction of an asphalt pedestrian/bicycle trail including the installation of a pre-fabricated pedestrian bridge over Santiago Creek at one location.

2.5.8 Orange

- Main Street/La Veta Avenue/Chapman Avenue. Phases of this project have been completed. The unfinished phases include widening La Veta Avenue between Cambridge Street and Parker Street to an ultimate width of 80 feet (25 meters), and between Parker Street and Flower Street to a range of 100 to 135 feet (30 to 40 meters) (Orange, 1991).[8]
- Santiago Creek Bike Trail Project consists of the construction of a Class I bike trail along Santiago Creek from the western city boundary to north Tustin Street. It implements a portion of the City's Master Plan of Bikeways. The proposed trail will connect existing, non-contiguous segments of trail in the cities of Orange and Santa Ana, and will consist of a ten-foot wide paved pathway with two-foot wide graded shoulders. The trail will be constructed on the north side of Santiago Creek beginning at the Orange/Santa Ana boundary, and entering Hart Park via an existing paved access road to the park. The trail will cross to the south side of the creek within the Hart Park parking lot, and traverse the south side of the park on existing paved pathways. The project will include undercrossings at the SR-22 Cambridge Street and Tustin Street. The undercrossing of SR-22 will be constructed on the existing dirt path that is elevated out of the creek bottom.

2.5.9 Tustin

- No projects are proposed in the vicinity of SR-22.

[6] The Negative Declaration for this project is available at the City of Garden Grove, 11222 Acacia Parkway, Garden Grove, CA 92840.
[7] The EIR for these projects are available at the city of Santa Ana, 20 Civic Center Plaza, Santa Ana, CA 92702.
[8] The Memorandum of Understanding for this project is available at OCTA.

2.5.10 Regional Transportation Projects

- Katella Avenue Super Street improvements are proposed for a 23.0-kilometer (14.3-mile) segment of Katella Avenue between I-605 and SR-55. Measures that would be implemented include traffic signal coordination, roadway widening, intersection improvements, on street parking modification, re-striping, bus turnouts and upgrading the safety and efficiency of the roadway (OCTA, 1993).[9]
- I-5 widening extending from SR-22 to SR-91, approximately 13.0 kilometers (8.1 miles), will reduce traffic congestion, provide additional capacity for the anticipated traffic increase, and reduce operational problems (Caltrans, 1991).[10] This project has been completed.
- Harbor Boulevard Smart Street improvements are proposed for a 12.5-kilometer (7.8-mile) segment from Orangewood Avenue (City of Anaheim) to the intersection with Gisler Avenue (Immediately south of I-405) in the City of Costa Mesa. Measures that would be implemented include The Smart Street concept envisions:
  - Addition of through and turn lanes
  - Preferential traffic signal timing and synchronization
  - Removal of on-street parking
  - Free right-turn lanes
  - Access limitation: right turn only, or no access (street and/or driveways)
  - Access consolidation
  - Bus Turnouts
  - Applications of Intelligent Transportation Systems (ITS) technology

2.6 PROJECT FUNDING

Estimated capital costs of the proposed improvement alternatives range from $68 million to approximately $751 million. The $68 million is for the TSM/Expanded Bus Service Alternative, the $751 million is for the Full Build Alternative, while the (Enhanced) Reduced Build Alternative is estimated between these two alternatives. According to the Preliminary Cost Estimate prepared during the DEIR/EIS stage, the cost of the Reduced Build Alternative is approximately $511 million. With the added features in the (Enhanced) Reduced Build Alternative, offset by the fewer residential and commercial property acquisitions, we can expect the identified Preferred Alternative cost to be similar to the Reduced Build Alternative at approximately $499 million. Specific funding plans will be determined based upon the identified Preferred Alternative and availability of a range of funding sources.

If selected, the funding of a recommended build alternative by OCTA and the Department would likely require several funding sources. The Department and OCTA will develop the actual funding plan for a recommended build alternative during the next phase of project development. Potential funding sources for improvements in the SR-22 corridor could include:

- Measure M funds
- State transportation funds
- Federal transportation funds
- Transportation Congestion Relief Plan (TCRP) funds
- Local transportation funds

On July 6, 2000, Governor Gray Davis signed Assembly Bill (AB) 2928, a transportation funding measure called the California Transportation Congestion Relief Plan (TCRP). Among other improvements, the TCRP provides $206.5 million for the mainline portion of the proposed improvements on SR-22, to construct HOV lanes from I-405 to SR-55. In addition, in December 2001, the OCTA Board of Directors approved allocating $203 million in Measure M dollars to fund the same limits of improvements. The combined funding would cover costs of the proposed SR-22 Mainline improvements outlined in the

[9] The EIR for this project is available at OCTA.
[10] The EIR for this project is available at the Department of Transportation, District 12.

(Enhanced) Reduced Build Alternative, but would not include the HOV direct connectors at SR22/I-405 or I-405/I-605.

Measure M was not included in the improvements to SR-22 during the DEIR/EIS phase. However, OCTA has continued to experience cost savings on committed freeway construction projects to date and Measure M sales tax revenues higher than OCTA's conservative financial projections. These two factors may offer the availability of additional Measure M funds beyond those required to complete committed freeway improvements.

State and Federal transportation funding allocations are based on the State Transportation Improvement Program (STIP). The STIP underwent a major change due to the approval of Senate Bill 45 in 1999. This bill consolidated various funding programs into the STIP and created more accountability for programming and delivery of STIP projects to the regions around the state and the various Caltrans districts. Of the available STIP funds, 75 percent are allocated by formula to the counties and are referred to as the RTIP. The California Transportation Commission (CTC) and the Department, through the Interregional Transportation Improvement Program, allocate the remaining 25 percent. The 1998 STIP covers a six-year time period, with future STIPs reduced to four-year periods. The 1998 STIP,[11] adopted in June 1998, includes over $300 million in funding for transportation improvements in Orange County. Most of these funded projects are included in the Measure M program of projects. Furthermore, the 2002 draft STIP did not include funding for construction of the HOV direct connectors at I-405/I-605 and I-405/SR-22 freeways.

2.7 PROJECT PHASING

Project construction would likely be phased. The mainline portion of the project, extending from I-405 to SR-55 has funding commitment and may proceed with design and construction upon complete processing of the EIR/EIS. The OCTA intends to utilize a design-build concept for this phase of the proposed improvement. The implementation of this approach could reduce construction duration. Phasing scenarios for the remaining features of the proposed project have not been determined, and would be dependent on such factors as funding availability, environmental impacts and mitigation requirements, coordination with other projects, and operational considerations of the transportation system during both construction and operation.

[11] Available at OCTA.

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